

REMARKS

Claims 1-33 and 55-60 are pending in the subject application. Claims 1-32 have been examined, and claims 1-8 and 10-33 stand rejected. Claim 9 has been objected to and has been indicated by the Examiner as containing allowable subject matter. By way of the above amendments, claims 1 and 22 have been amended, and new claims 55-60 have been added. Support for the amended and new claims can be found throughout the specification and drawings. In addition, claims 34-53 have withdrawn as non-elected claims due to a previous restriction requirement, and these claims have been canceled without prejudice or disclaimer of the claimed subject matter thereof. Applicant reserves the right to pursue the canceled subject matter of these claims in a divisional application. Favorable reconsideration of the application and allowance of all of the pending claims are respectfully requested in view of the above amendments and the following remarks.

Initially, it is noted that Applicant continues to traverse the restriction of claim 33 by the Examiner into a separate group from claims 1-32. The reasons for such traversal have been previously set forth by Applicant. Therefore, Applicant maintains that it is improper for the Examiner to maintain the restriction between claims 1-32 and claim 33. However, since claim 33 depends from claim 22, it is noted that, should claim 22 be allowed, then claim 33 must also be allowed given that claim 33 includes all of the features of an allowable claim.

Claims 1-4, 6 and 10-32 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,344,297 to Hills. Claims 5, 7 and 8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Hills in view of U.S. Patent No. 4,414,276 to Kiriyama et al. ("Kiriyama"). These rejections are respectfully traversed based upon the following remarks.

Initially, it is noted that the present invention relates to improving the alignment accuracy of stacked distribution plates within a spin pack to enhance the performance of the spin pack assembly during polymer fiber extrusion. As noted in the specification (page 3), due to plate manufacturing processes, any feature on a plate may have a long-term positional accuracy on the order of 0.002 inch per foot from the central dowel pin (which aligns the stacked plates in the

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spin pack). As a result, the plate-to-plate alignment accuracy in long spin packs (e.g., spin packs having a length of twelve feet or longer) can become significant, which in turn affects the density of pattern designs and thus spin hole densities that can be provided in the plates, since the features on the plates must be large enough to account for potential misalignments between the plates.

The present invention reduces plate-to-plate misalignments between adjacent layers of stacked plates in a fiber extrusion pack by providing distribution plates in the stack that are split so as to facilitate movement of two or more plate segments toward and away from each other by providing gaps between adjacent edges or edge portions of the plate segments forming each distribution plate. For example, two plate segments can be separable from each other along a gap that extends continuously across the distribution plate so as to facilitate separation of two adjacent plate segments from each other. Because each plate segment is only a fraction of the length of the overall distribution plate and the plate-to-plate alignment of each plate segment is controlled by the dowel pins of that plate segment, the plate-to-plate alignment is significantly enhanced for the split distribution plate in comparison to conventional, single-piece distribution plates.

Claims 1-33 recite the features of one or more split distribution plates. In particular, claim 1 recites a fiber extrusion pack for extruding molten material to form an array of fibers, comprising a plurality of split distribution plates arranged in a stack such that each split distribution plate comprises a layer within the fiber extrusion pack, and features on the split distribution plates form a distribution network that delivers the molten material to orifices in the fiber extrusion pack. Claim 1 further recites that each of the split distribution plates comprises a plurality of plate segments with a gap disposed between adjacent plate segments that facilitates movement of the adjacent plate segments toward or away from each other.

Claim 22 recites a split distribution plate for use in a fiber extrusion pack, comprising a plurality of separable plate segments arranged side-by-side, the plate segments including features that form a distribution network with features of adjacent distribution plates, the plurality of plate

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segments comprising at least first and second plate segments whose adjacent edges form a gap in the split distribution plate so as to permit movement of the first and second plate segments toward and away from each other. None of the cited references discloses or renders obvious the combined features of each of claims 1 and 22.

Hills describes a spin pack including stacked plates. However, there is simply no teaching or suggestion anywhere in Hills that any of the stacked plates is a split distribution plate including a plurality of plate segments with a gap disposed between adjacent plate segments to permit adjacent plate segments to be moved toward or away from each other. Rather, each of the stacked plates in Hills is a single, integral plate that clearly is not designed or configured to permit portions or segments of the plate to be moved toward or away from other segments of the single, integral plate.

The Examiner asserts that the embodiment of Fig. 1 of Hills describes distribution plates including segments and gaps formed between adjacent segments. However, Fig. 1 of Hills actually shows a partial cross-sectional view of a spin pack, with portions of each stacked plate being cut away to show the features within each plate (see, e.g., Col. 12, lines 11-13 of Hills). The spin pack assembly 10 shown in Figs. 1-10 of Hills includes a series of one-piece stacked plates in the following order: a top plate 11, a screen support plate 12, a metering plate 13, an etched distributor plate 14, and a spinneret plate 15 (see Col. 9, line 55, to Col. 10, line 29, of Hills). The cavities 19, 20 shown in Fig. 1 of Hills and referred to by the Examiner are clearly formed in the single, one-piece top plate 11. In other words, these cavities 19, 20 are not formed in adjacent edges of plate segments of a distribution plate, as asserted by the Examiner, where such adjacent plate segments are capable of moving toward or away from each other. The single, integral distribution plates of Hills are completely different from the invention as recited in claims 1 and 22, where each distribution plate of Hills is clearly one, integral piece and not made up of segments that can move toward or away from each other as recited in these claims.

Kiriyama fails to make up for the deficiency of Hills, since this reference also fails to teach even a single split distribution plate as recited in claim 1 and claim 22.

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Since Hills fails to teach or suggest even a single split distribution plate including segments that can move toward or away from each other as recited in claims 1 and 22, these claims are not anticipated by Hills. The Examiner is therefore requested to withdraw the rejection of claims 1 and 22 based upon Hills.

Claims 2-21 and 23-33 depend from one of claims 1 and 22 and therefore include all of the limitations of their parent claim (including claim 33, as noted above). Accordingly, these claims are also not anticipated by Hills or rendered obvious by Hills in view of Kiriyaama. Further, the additional features of these claims further distinguish the claimed invention from Hills and Kiriyaama. Accordingly, the Examiner is requested to withdraw the rejections of claims 2-8, 10-21 and 23-32 based upon these references.

New claims 55-60 further recite features of the gap which further distinguish the recited split distribution plates from Hills, Kiriyaama and any of the other cited references. For example, claims 55 and 56 further recite that the adjacent plate segments (or first and second plate segments) are separable from each other along a gap that extends continuously across the distribution plate. This feature is clearly not disclosed or suggested in any of the cited references. Claims 57-60 also recite additional features which are not disclosed or suggested in the cited references. Accordingly, it is submitted that these claims should also be allowed over Hills or Hills in view of Kiriyaama.

In view of the foregoing, the Examiner is respectfully requested to find the application to be in condition for allowance with claims 1-33 and 55-60. However, if for any reason the Examiner feels that the application is not now in condition for allowance, the Examiner is respectfully requested to call the undersigned attorney to discuss any unresolved issues and to expedite the disposition of the application.

Submitted herewith is a petition for a two month extension of time with the requisite fees. Applicants hereby petition for any additional extension of time that may be required to maintain

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the pendency of this case, and any required fee for such extension is to be charged to Deposit Account No. 05-0460.

Respectfully submitted,

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